Approved For Release 2003/03/04 CIA RDP78T05161A001000010036-9 MAGERY NALYSIS IVISION PHOTOGRAPHIC INTELLIGENCE REPORT NAVAL BASE AND SHIPYARD 402 SEVERODVINSK, USSR **Declass Review by NIMA/DOD** 25X1 17316 CIA/PIR 67315 25X1 December 1966 DATE COPY GROUP 1 Excluded from automatic ngrading and declassification 58 **PAGES** Approved For Release 2003/03/04: CIA-RDP78T05161A001000010036-9

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16 February 1967

DDI IMAGERY ANALYSIS STAFF

ERRATUM FOR 13 JUNE 1966)

The CIA/PIR Number 67315 of the Photographic Intelligence Report,

Military Installation, Krivoy Rog - USSR, should be changed to CIA/PIR 67316.

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CIA/PIR-67315

CIA IMAGERY ANALYSIS DIVISION

NAVAL BASE AND SHIPYARD 402 SEVERODVINSK, USSR

- 1 **-**

	CIA/PIR-67315 CIA IMAGERY ANALYSIS DIVISION
	: INTRODUCTION
I.	BACKGROUND
	This study is in partial response to a continuing project requiring identification of ships at selected Sino-Soviet Bloc shipyards from overhead photography.
	Severodvinsk Shipyard 402 is of the highest intelligence priority since it is the lead yard for the production of Soviet nuclear attack and missile submarines. No reports on Severodvinsk have previously been prepared under this project for missions prior to As of, nine reports on Severodvinsk from missions subsequent to have been published. Six other reports from missions subsequent to are presently in preparation.
II.	SCOPE OF THIS REPORT
	This study provides detailed reporting on the thirteen usable missions prior to the interpretation of the fifteen usable Shipyard 402 during the period applied, whenever appropriate, to the earlier Severodvinsk contained in this report. In particular, has been used as a basic reference throughout in terms of imagery analysis, facility nomenclature, and for the cross-checking of mensural data. The cyclical nature of activity noted in the summer of has been compared to similar activity patterns noted in the summer of The cut-off date for background information used in the preparation of this report is
II.	FORMAT
	In order to facilitate imagery comparisons between missions, the orientations of Figures 1 through 13 have been standardized - with south toward the top of each photograph. The camera orientations of most of the missions included in this study are toward the south as is that of the basic reference mission used throughout this study.

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Photo enlargements of activity observed in each of the two large floating docks from selected coverages through have been isolated for ease of reference in the Appendix to this report.

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MENSURATION IV.

All measurements have been made by the CIA/IAD project analysts using scale factors provided by NPIC/TID. They should not be construed as being mensuration data compiled by the NPIC Technical Intelligence Division.

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SHIPYARD: NAVAL BASE AND SHIPYARD 402

LOCATION : SEVERODVINSK, USSR GEO COORDS: 64-35N 039-50E

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KEY TO NUMBERED ANNOTATIONS ON FIGURE 1

- 1. Unidentified object(s) in front of the north door of the main construction hall.
- Unidentified probable vessel in the deep section of the main launching basin.
- 3. Unidentified possible submarine at fitting-out quay.
- 4. Probable floating dock.
- 5. Possible submarine berthed at the fitting-out quay. This possible submarine appears to be berthed outboard an unidentified vessel (possibly a support barge).
- 6. Unidentified probable submarine at fitting-out quay. This vessel appears to be berthed outboard a portion of the possible submarine at annotation 5 above and an unidentified object (possibly a support barge).

KEY TO FACILITY ANNOTATIONS ON FIGURE 1

- A. No evidence of construction activity is visible at the site of the probable hull section fabrication shop. See annotation A,
- The channel created between the west end of Yagry Island and the silt deposits appears to be unimproved.
- C. No evidence of construction activity is visible at the site where the Nuclear Submarine Special Support Facility is later located.
- D. Land reclamation is in progress at the site where the new wet dock and repair facility is later located.

NOTE: Poor quality photography precluded measurements.



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SHIPYARD: NAVAL BASE AND SHIPYARD 402 LOCATION: SEVERODVINSK, USSR GEO COORDS: 64-35N 039-50E
KEY TO NUMBERED ANNOTATIONS ON FIGURE 2
1. Unidentified imagery at the fitting-out quay.
2. Possible vessel. Extremely poor quality photography precluded further interpretation.
3. Probable floating dock. It can not be ascertained whether or not this dock is occupied.
4. Probable floating dock. This marks the first time that a second large floating dock is observed at the Severodvinsk Shipyard.
KEY TO FACILITY ANNOTATIONS ON FIGURE 2
A. The probable hull section fabrication building is in the very early stages of construction. See annotation A,

C. Land reclamation is in progress for the new repair facility and wet dock.

B. Ground scarring is visible and the old piers have been removed for the construction of the Nuclear Submarine Special Support Facility.



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	KEY TO VESSEL ANNOTATIONS ON FIGURE 3
ı.	Four probable DE (IOA of each approx 300').
2.	Two unidentified possible vessels (measurements undetermined).
3.	BUSSARD Class AKL (LOA approx 320').
4.	Large floating dock (IOA approx 435') containing an unidentified probable submarine (visible length approx 365'). Although a sail can not be discerned, the slender hull and tapering end-points contribute to the identification of "probable submarine".
5.	Probable "N" Class SSN (visible length approx 350') in floating dock. Rounded bow, slender tapering hull shape, and the length all equate to the characteristics of the "N" Class SSN.
6.	Possible submarine moored alongside quay (measurements undetermined).
	KEY TO FACILITY ANNOTATIONS ON FIGURE 3
Α.	The probable hull section fabrication shop is nearing completion. See annotation A,
В.	Construction continues on the new wet dock facility with approximately three-quarters of the wet dock wall in place. Land reclamation is well underway adjacent to the wet dock entrance.
C.	Land reclamation, apparently for a small quay, is in progress just north of the entrance to the main launching basin.
D.	Construction is well underway on the Nuclear Submarine Special Support Facility with activity evident on the quay, the tank area, and the "main" building. Only faint ground scars were visible on coverage of See annotation B,
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	E. Construction has started on a breakwater, apparently for the purpose of controlling silting in the estuary. See annotation B,	25X1
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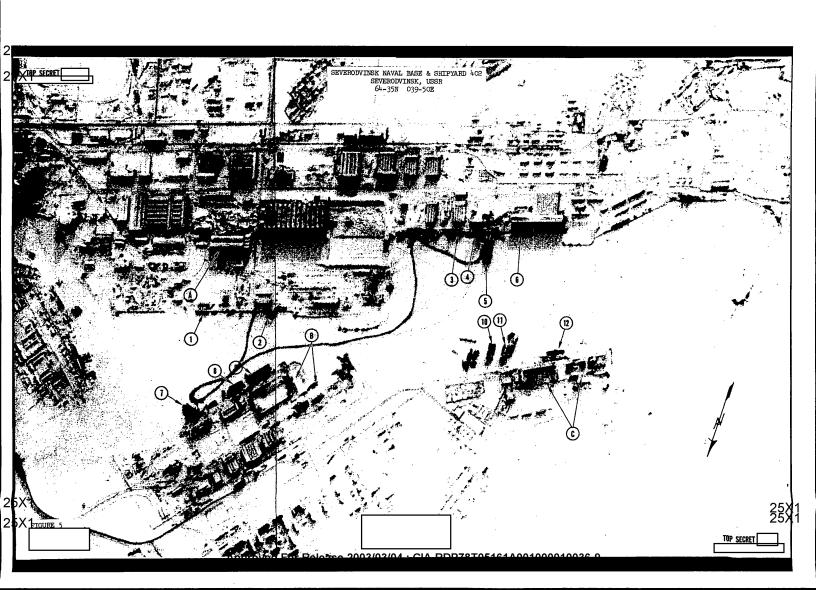
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_	9.	Unidentified imagery alongside quay (could not be measured).	The American
	10.	Three probable DE (IOA approx 300') Med-moored to quay.	P b
	11.	Floating dock containing an unidentified submarine (visible length of submarine approx 360'). Long slender tapered hull shape contributes to this identification. Submarine end-points are indistinct. See annotation 4	25X1
		Submarine end-points are indistinct. See annotation 4	25/
		KEY TO FACILITY ANNOTATIONS ON FIGURE 4	200
	Α.	Probable hull section fabrication building is complete except for a small portion of the roof on the north side. See annotation A,	25X1
_	В.	The quayside section of the "main" building at the Nuclear Submarine Special Support Facility appears to be nearing completion. Ground scars for the fabrication section of this building are visible.	e entre entr
_ 25X1_	С.	Construction activity on the new wet dock facility is apparently centered on the erection of the south wall of the wet dock. See annotation B,	SCOTO COMPANY OF THE PROPERTY
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	KEY TO NUMBERED ANNOTATIONS ON FIGURE 5
7	Unidentified vessel berthed alongside quay (IOA roughly 300').
⊥•	Snow and lack of contrast preclude more accurate end-point definition.
2.	Large probable floating crane.
3.	Possible submarine (visible length approx 380'). Poor quality and snow/ice precluded a class determination.
4.	Possible submarine (visible length approx 380'). Poor quality and snow/ice precluded a class determination.
5.	Possible "N" Class SSN (visible length at least 350') in large floating dock. Rounded bow with possible "staybrite" belt contribute to this evaluation.
6.	Possible "N" Class SSN (visible waterline length approx 350'). Visible length and a possible "staybrite" belt on a rounded bow contribut to this evaluation.
7.	Possible BUSSARD Class AKL (LOA approx 320').
8.	Unidentified vessel (IOA approx 260') berthed inboard another unidentified vessel (IOA approx 260'). Both vessels are broad of beam.
9.	Probable "H" Class SSBN (visible length approx 380') in a large floating
	dock. The sail of this submarine apparently has been removed. Approximately 80 feet of covering has been placed over the deck just abaft the position where the sail normally ends.
10.	Two possible DE (LOA approx 300').
11.	Possible BOLVA Class APL. Length could not be determined due to smoke/steam being emitted from an unidentified vessel on the opposite side of the pier.
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	12. Unidentified possible submarine (apparent waterline length approx 360'). This possible submarine is imaged as a long narrow hull shape outboard of a narrow possible barge (IOA approx 180') alongside the quay. This marks the first time that a possible submarine has been identified at the Yagry Island Nuclear Submarine Special Support Facility.	
_	KEY TO FACILITY ANNOTATIONS ON FIGURE 5	
5X1	A. Probable hull <u>section</u> fabrication building is apparently complete. See annotation A,	
	B. Construction continues on wet dock walls and on the quayed area near the mouth of the dock.	
<u> </u>	C. The quay at the Nuclear Submarine Special Support Facility is approximately two-thirds complete and the large main building is approximately ten percent roofed over.	
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KEY TO NUMBERE	ED ANNOTATIONS ON FIGURE 6
1. Unidentified possible oiler	c (IOA approx 210').
2. Unidentified stack-aft vess	sel (IOA approx 215').
3. Unidentified vessel (IOA ap	pprox 310').
4. At least four unidentified undetermined).	circular objects on the quay (measurements
5. Large floating crane. This crane is in the same pages annotation 6, Figure 5,	position as the crane observed on
6. Unidentified vessel (IOA ap	pprox 125').
7. Unidentified vessel (IOA ap	pprox 230').
construction hall (IOA appr Although this submarine is over-all, hull shape and t contribute to this identifi scaffolding or other tempor this submarine (end furthes imagery observed on the bow drydock on (ann rectangular possible suppor	center rails in front of northern bay of cox 345'). apparently without a sail, the visible length the prominent stern planes (horizontal stablizers teation. An unidentified object (possibly cary covering) is positioned on the bow of st from the construction hall) much like the v of the "N" Class SSN seen in the floating notation 9, Figure 4 and 4C, A ct barge is positioned directly alongside the rine (IOA of barge approx 175').
probable support barge (app Three vertical floating scr are placed along the outboa	sible IOA approx 360') berthed outboard of a prox 185' by 25'). reens, each approximately 50 feet in length, and (probably port) side of the ship. Vertical eved outboard all three "E" Class SSGNs at this. (annotations 2, 4, and 7, Figure 4,
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CIA IMAGERY ANALYSIS DIVISION

- 10. "H" Class SSBN (visible waterline length approx 365').

 Wide tapering hull outline and positioning of the large sail confirm this identification. Approximate mensural characteristics for this submarine are: bow to forward edge of sail 90 feet; top of sail 80 feet; after edge of sail to stern (visible imagery) 195 feet. A small yard craft with a rounded hull shape is berthed on the submarine's starboard bow. A white duct-like object leads from the yard craft to the submarine's foredeck. This small yard craft is similar to the one observed on See annotation 12, Figure 4, CIA/PIR-67041. No imagery equating to possible vertical screens is visible outboard of this submarine.
- 11. Possible "E" Class SSGN (waterline length undetermined due to shadow falling across the stern) berthed outboard of a submarine support barge.

 Positioning of the sail and imagery equating to the third set of missile exhaust deflectors contribute to this identification. Four vertical floating screens are visible along the submarine's port side.
- 12. Possible "N" Class SSN (IOA approx 350') in a large floating drydock. Length and possible "staybrite" belt on the submarine's very rounded bow make this identification possible.
- 13. Probable submarine support barge alongside the floating drydock. See annotation 10, Figure 4,
- 14. Probable Missile Target Barges (YAGT LOA approx 350').
- 15. Unoccupied transporter dock (IOA approx 300').
- 16. Possible Missile Target Barge (YAGT IOA approx 320') berthed inboard an unidentified possible tugboat.
- 17. BUSSARD Class AKL (LOA approx 320').
- 18. Two probable RIGA Class DE (IOA of each approx 300').
- 19. Three unidentified vessels (visible waterline length of each approx 200').
- 20. Unidentified probable submarine (visible length approx 275') in transporter dock (IOA of dock approx 345').

 The sail of this submarine could not be measured with confidence, thereby precluding an identification as to class.

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21.	Probable "H" Class SSBN (visible length approx 370') in a large floating
	drydock (IOA of drydock approx 435'). The sail of this submarine (approximately 95 feet long and approximately
	The sail of this submarine (approximately 9) receiving and approximately 9) receiving and approximately 9.
	90 feet from the bow) does not appear as "smooth" or as "finished" as
	that on the "H" Class SSBN at annotation 10 indicating that at least
	the termont of the sail is missing. A covering (possibly canvas) is
	leasted on the after one-half of the submarine. It covers approximately
	135 foot of the hull beginning at a point approximately 49 feet from
	the stern. There does not appear to be any covering on the bow area.
	This submarine appears similar with respect to the position and size of
	This submarine appears similar with respect to the position and state of
	the after coverings to the "H" Class SSBN seen on photography of
	(annotation 15, Figure 6, A rectangular object, possibly
	a submarine service barge, is berthed across the east end of the drydock
	containing the probable "H" Class SSBN.
	Contrathing one probable in oracle action

- 22. Six small unidentified vessels nested at pier (length undetermined).
- 23. Two probable DE (IOA of each approx 310').

 Lack of visible topside detail precludes a determination as to class (KOLA/RIGA).
- 24. BOLVA Class APL (LOA approx 365').

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- 25. Unidentified possible surface combatant (IOA approx 370').

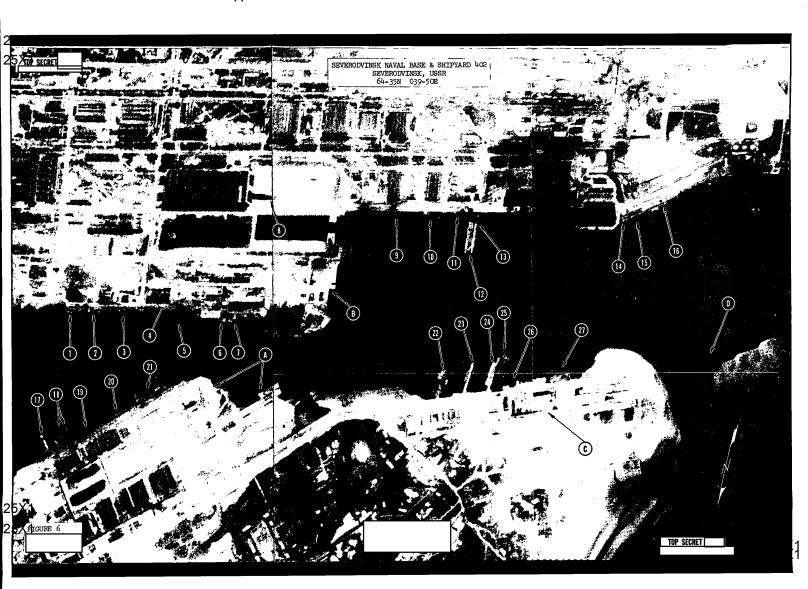
 Four smaller unidentified vessels are nested on this vessel's port side.

 The smaller vessels range in size from approximately 250 feet to 130 feet.
- 26. Probable floating crane working on the nearly completed quay for the Nuclear Submarine Special Support Facility.
- 27. Possible "N" Class SSN (visible waterline length approx 350') berthed at the Nuclear Submarine Special Support Facility quay.

 Broad rounded hull form at one end and long taper to the other end contribute to this evaluation. This submarine is moored outboard of a possible decontamination (DECON) radio-activity control (RADCON) barge (IOA approximately 195 feet) and a small unidentified vessel (IOA approximately 140 feet). The possible DECON/RADCON barge and the small unidentified vessel as well as an unidentified object berthed east of the barge are all moored "end-to-end" and give the initial impression of being one long object. Close scrutiny and comparison with photography of ________ as well as an isodensity trace have led to a discounting of this possibility. This marks the first time that a total of three (possible/probable) "N" Class SSN can be identified at any one time at Severodvinsk.

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entrance. 3. Construction continues on the quay of the unidentified facility immediately north of the gate to the main launching basin. C. The fabrication section of the large "main" building at the Yagry Island Nuclear Submarine Special Support Facility remains under construction with approximately 40 per cent of the roof still not in place.		TOP SECRET
interpretation it is conceivable that three "N" Class SSN could have been present at Shipyard 402 as early as See annotations 4, 6, and 7, and annotations 5, 6, and 12, KEY TO FACILITY ANNOTATIONS ON FIGURE 6 Construction continues on the new wet dock and quay area west of the entrance. Construction continues on the quay of the unidentified facility immediately north of the gate to the main launching basin. The fabrication section of the large "main" building at the Yagry Island Nuclear Submarine Special Support Facility remains under construction with approximately 40 per cent of the roof still not in place. Dredging and land fill operations are in progress for a mole apparently to be constructed to control the movement of sand into the estuary as well as to provide additional berthing space.		'
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A. Construction continues on the new wet dock and quay area west of the entrance. 3. Construction continues on the quay of the unidentified facility immediately north of the gate to the main launching basin. 3. The fabrication section of the large "main" building at the Yagry Island Nuclear Submarine Special Support Facility remains under construction with approximately 40 per cent of the roof still not in place. 3. Dredging and land fill operations are in progress for a mole apparently to be constructed to control the movement of sand into the estuary as well as to provide additional berthing space.		interpretation it is conceivable that three "N" Class SSN could have been present at Shipyard 402 as early as See annotations
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immediately north of the gate to the main launching basin. C. The fabrication section of the large "main" building at the Yagry Island Nuclear Submarine Special Support Facility remains under construction with approximately 40 per cent of the roof still not in place. D. Dredging and land fill operations are in progress for a mole apparently to be constructed to control the movement of sand into the estuary as well as to provide additional berthing space.	Α.	
Tsland Nuclear Submarine Special Support Facility remains under construction with approximately 40 per cent of the roof still not in place. Dredging and land fill operations are in progress for a mole apparently to be constructed to control the movement of sand into the estuary as well as to provide additional berthing space.	В.	
to be constructed to control the movement of sand into the estuary as well as to provide additional berthing space.	С.	Island Nuclear Submarine Special Support Facility remains under construction with approximately 40 per cent of the roof still not in
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	KEY TO NUMBERED ANNOTATIONS ON FIGURE 7
' 1	1. Large probable floating crane. See annotation 5,
X 1	2. Unidentified probable auxiliary (IOA approx 255').
	3. Probable harbor tug (IOA approx 150'). This vessel may be connected to the stern of the probable "N" Class SSN in this basin (annotation 4) by means of a long line. This impression is gained because of the similarity of axis alignment with that of the submarine and the possibility that the submarine may shortly be exiting the basin. No such line is actually visible on this hazy small scale photography.
,	4. Probable "N" Class SSN (visible waterline length approx 355'). Intensive analysis of this imagery utilizing original negative film and positive materials of varying densities from each of the three frames covering this target has led to a considerable refinement of previous estimates of this vessel's characteristics. Heavy density film positives of the two AFT frames, when viewed stereoscopically, reveal that the bow of this submarine is rounded and is attached to the stern of a tugboat (annotation 5) by means of a "V-shaped" towing device (apex at the bow of the submarine). The distance between the stern of the tugboat and the bow of the submarine is approximately 60 feet. No "staybrite" belt is visible on the bow of the submarine although a small unidentified white object is located approximately 25-30 feet aft of the bow. No sail can be identified on this submarine; the slightly mottled tonal pattern of the deck of this vessel precludes interpretation of amidships detail. Imagery present on both AFT frames indicates that the after extremity of this submarine is pinched and is possibly raised. This evidence is therefore suggestive of a possible vertical fin - a recognition character istic of the "N" Class. In addition, the broad forward and amidships beam terminating in a long angled taper to the stern is suggestive of the hull of the "N" Class SSN. A probable "N" Class SSN was observed on the unflooded shallow side of the main launch basin on See annotation 8,
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5.	Unidentified harbor tug (IOA approx 155'). Bow of tug is butted against the inner basin wall near the caisson entrance to the basin. The tugboat stern is angled in such a manner as to suggest that the tug is trying to turn in place, thereby swinging the bow of the probable "N" Class SSN into alignment with the entrance to the launching basin.	
6.	Possible auxiliary (IOA approx 305'). Visible topside imagery and hull outline bear a slight resemblance to the unidentified auxiliary noted inboard of a "J" Class SSG on see annotation 2, Figure 5,	25X1 25X1
7.	Probable floating workshop. This very broad rectangular craft is later observed near this position on	
8.	Unidentified submarine (visible waterline length approx 365'). A small linear object, possibly equating to a floating vertical screen, is located outboard of this vessel. The submarine is berthed outboard of a narrow rectangular support barge approximately 190 feet in length. See annotation 9,	
9.	Unidentified submarine (visible waterline length approx 340'). Three small linear objects, possibly equating to floating vertical screens, are outboard of the submarine. The submarine is moored outboard of a possible narrow rectangular support barge (apparent IOA approximately 225 feet). Narrow hull outline and lack of a large sail are dissimilar to recognition characteristics common to the "H" Class SSBN observed in this berthing space on See annotation 10,	25X1
10.	Unidentified submarine (visible waterline length approx 340'). The submarine has a segmented appearance, but the indistinct hull outline precludes further analysis. Three small possible floating screens are outboard of the submarine. A rectangular probable support barge (approximately 210 feet in length) is positioned between the submarine and the quay. See annotation 11,	25X1
11.	Probable "N" Class SSN in floating dock (visible LOA of SSN approx 345'; LOA of dock approx 425'). Factors contributing to this evaluation include a pronounced probable "staybrite" belt on a very rounded bow and a vertical protrusion by the	

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stern. It cannot be ascertained if there is any break in the hull of

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submarine. See annotation 12,

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12.	One possible rectangular submarine support barge (nearest quay - IOA approx 190') and an unidentified possible yard craft (IOA approx 130'). Both of these craft are berthed between the floating dock (annotation 11 above) and an "N" Class SSN berthed parallel to the dock (annotation 13 below).
13.	"N" Class SSN (visible waterline length approx 350'). The "staybrite" belt, rounded bow, broad beam forward, and long tapered hull outline aft contribute to this identification. No submarine was berthed in this position on
14.	Floating crane positioned alongside starboard midships section of the "N" Class SSN at annotation 13 above.
15.	Unidentified submarine (visible waterline length approx 310'). This submarine appears to have a rounded bow (end toward floating dock - annotation 11) and the visible hull outline is similar to that of the "N" Class SSN. However, lack of a visible "staybrite" belt, no evidence of a sail, and an indeterminate after end-point preclude further identification of this vessel. This submarine is berthed outboard of a rectangular support barge which is partially obscured by shadow from a building on the quay.
	An unidentified possible auxiliary (IOA approx 215') is berthed outboard of the unidentified submarine and is aligned stern-to the "N" Class floating dock. This ship is observed to have topside characteristics similar to an "unidentified stack-aft cargo ship "berthed along the East Quay on See annotation 4, Figure 5, A very small yard craft appears to be positioned just forward of the possible auxiliary in line with the after port quarter of the submarine. No submarine was observed in this berthing space on
16.	Possible submarine angled into quay between two probable yard craft (end-point nearest quay is indistinct thereby precluding a measurement). The squat-looking hull shape of this possible submarine is more suggestive of an "H" Class SSBN than of an "E" Class SSGN. No sail could be discerned.
17.	Two unidentified small craft on quay (visible IOA of each approx 90').
18.	Two unidentified surface vessels (visible LOA's approx 165' and 120').

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- 19. Probable "E" Class SSGN (visible waterline length approx 390'). Two probable elevated missile launchers are visible aft, and one probable launcher is visible forward. Athwartships lines probably equating to either exhaust deflectors or shadows from the elevated missile launchers are clearly visible on this submarine. A parallel series of small objects is visible outboard of the submarine on one of the two frames containing this imagery. Since the "E" Class hull inboard of these objects is imaged on both frames it is believed that if the adjacent parallel imagery were a submarine it too would be visible on both frames. This judgment, plus the fact that the submarine is berthed in an exposed position in line with the entrance to Nikol'skoye Estuary, leads to the belief that this outboard imagery may possibly equate to a long line of vertical floating screens extending for nearly the length of the submarine.
- 20. Unidentified object (visible waterline length approx 290'). This imagery appears too wide to be a submarine.
- 21. BUSSARD Class AKL (LOA approx 320').
 Centerline down the forward two-thirds of vessel, position of superstructure, and hull outline equate to this class. See annotation 17,
- 22. Possible submarine moored directly alongside quay. Poor end-point precludes measurement.
- 23. Four unidentified objects nested against quay. Poor imagery precludes further evaluation.
- 24. Rectangular support barge alongside quay (IOA approx 185').
- 25. Transporter dock (IOA approx 345').
 Occupancy status cannot be determined.
- 26. Probable submarine support barge (IOA approx 185').

 Rectangular shape and berthing arrangement are identical to that of a similar barge observed on See annotation 12, Figure 6,
- 27. Probable auxiliary (apparent IOA approx 310').
 Although topside detail on this vessel is nearly indistinct it is noted that two white objects near the stern plus the amidships placement of the superstructure appear similar to the lifeboat and superstructure placement observed on the "PM-124" Class YRSN. See annotation 7, Figure 8,

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cobable ZEYA Class YRSN (visible LOA approx 220'). Expressed mid-section, visible hull outline, and offset black centerline hidships contribute to this evaluation. A ZEYA is later observed alongde this quay on (annotation 27,). This present assion marks the first time that the ZEYA
repressed mid-section, visible hull outline, and offset black centerline hidships contribute to this evaluation. A ZEYA is later observed alongde this quay on annotation 27, annotation 27, this present ession marks the first time that the ZEYA
repressed mid-section, visible hull outline, and offset black centerline hidships contribute to this evaluation. A ZEYA is later observed alongde this quay on a contribute (annotation 27, and the ZEYA). This present assion marks the first time that the ZEYA
oprox 360'; IOA of dock approx 435'). A ised imagery possibly equating to a large sail plus a fairly broad and tunt end-point toward the NE end of the dock indicate that the bow is ocated at that end of the dock. It is of interest to note that the abmarine is positioned with its (probable) bow extremity nearly in line at the NE extremity of the dock - and that some 70 feet of dock floor is visible between the SW extremity of the dock and the (probable) stern its dock is noted on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the after two-fifths of the submarine appears to be shed on the submarine appears to she shed on the submarine appears to she shed on the submarine appears to she shed on the submarine appears
robable YAGT (IOA approx 350').
nree probable RIGA Class DE (IOA of each approx 300').
OLVA Class APL (visible LOA approx 360').
ossible DD (visible IOA approx 375'). Dinted bow and transom stern contribute to this evaluation; no distinuishable topside detail is visible.
robable small floating crane.
ossible rectangular submarine support barge (IOA approx 200'). small yard craft (visible IOA approx 130') appears to be tied up to he quay directly in line with, and west of, this barge. No evidence of ubmarine activity is present at this quay. These two craft appear to ccupy the same positions as similar-looking imagery observed directly longside this quay in (see annotation 27, A ossible crane is located on the quay at position 35a.

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	KEY TO FACILITY ANNOTATIONS ON FIGURE 7	:
· -	A. Construction continues on the wet dock and quay at the Naval Repair	named a
	Facility, Yagry Island.	•
<u></u> .	B. Easternmost fifth of quay at the Nuclear Submarine Special Support Facility, Yagry Island, remains under construction. Easternmost twothirds of this quay may not yet be fully servicable (e.g. final surfacing does not appear to be completed in this part of the quay).	が変更なる。
	C. Approximately three-fourths of the main building at the Yagry Island Nuclear Submarine Special Support Facility has been roofed over.	
<u>.</u>	D. The westernmost two exposed tanks do not yet appear to have had their vertical cylindrical sidewalls completed. The other set of tanks is not yet covered.	
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O	TPYARD: NAVAL BASE & SHIPYARD 402 CATION: SEVERODVINSK, USSR O COORDS: 64-35N 039-50E
	KEY TO NUMBERED ANNOTATIONS ON FIGURE 8
1.	Probable "J" Class SSG (apparent waterline length approx 285'). Broad beam and large sail contribute to this evaluation. Two "J" Class SSG were berthed near this position on (see annotations 1 and 3, Figure 5, sighting is the first evidence from photography of probable "J" Class submarine activity at Severodvinsk. Unidentified imagery possibly equating to two small service craft is visible in line outboard of the submarine.
2.	This crane is berthed lengthwise alongside the quay in the same position where it was berthed (short end to quay) on See annotation 6. Figure 5. The crane was borthed short end to this quay on (annotation 1, . Two tapered (and possibly cylindrical) objects (annotation 2a), each approximately 120 feet in length, are lying side by side upon their longitudinal axes on the quay directly in line with the floating crane. Maximum width of each of these tapered objects is approximately 30-35 feet. The narrowest end of the tapered object nearest to the quay's edge is approximately 15-20 feet wide. A vertical protrusion is positioned atop the narrow end of this tapered object. No upright cylindrical objects were observed in this area of the quay on this coverage. The unannotated vessel along this quay just east of the floating crane appears to be the auxiliary" noted at this quay on (see annotation 4, Figure 5, See also annotation 15,
_	Unidentified surface vessel (IOA approx 265').
•	See annotation 2,

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5.	"H" Class SSBN in floating dock (apparent IOA of SSBN approx 395'; IOC of dock approx 440'). Blunt bow, large sail, and vertical fin on stern contribute to this identification. Approximate visible topside dimensions include: bow to leading edge of sail - 110 feet; sail length - 80 feet; after edge sail to stern - 205 feet. The distance between the stern and the end of the dock nearest the construction hall measures approximately 30 feetween the bow and the other edge of the dock - approximately 15 feetween the bow and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the bow and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the other edge of the dock - approximately 15 feetween the stern and the stern and the stern and the other edge of the dock - approximately 15 feetween the stern and th
	This appears to be the same dock which was observed (containing a pose "H" Class SSBN with an approximate visible IOA no greater than 360 fer alongside the Yagry Island wet dock quay on (see annotate 29, If the submarine observed in this dock is the same (possible) "H" Class SSBN as that previously observed in it appears that it may have been lengthened by approximately 25-feet. Additional evidence of this possibility is visible on coverage of Severodvinsk during See annotation 15, Figure 6, and annotation 30,
6.	Two probable tugboats (IOA of each approx 145'). These vessels are positioned side by side in a line between the float dock (annotation 5 above) and the inner wall of the launching basin. One end of each of the probable tugs butts against the basin wall; the other end is snug against the open end of the dock nearest the caisson A broad rounded hull outline and a squat superstructure (positioned forward of amidships) surmounted by a possible stack contributed in excase to this evaluation. Two similar looking craft - one in a nearly identical position - were observed on either side of the probable "N" Class SSN in this basin in See annotations 3 and 5, A tug of similar appearance was later observed on the unflooded shalleside of the launching basin on excellent quality photography of
7.	"N" Class SSN (apparent waterline length approx 360'). A very rounded "staybrite" bow (end of submarine furthest from construction hall), a small sail positioned approximately 90 feet from the bow, and a vertical fin on the stern contribute to this identification. A small object appears to be placed on the amidships deck of this submarine. Probable walkways connect this vessel with both the construction hall and the probable submarine support barge (annotation 4 above). Imagery equating to the possible port stabilizer of this submarine is visible near the stern indicating that the water level over the shallow side of the basin may be at an insufficient level to float the submarine. The submarine is aligned along the axis of the center of the three sets of tracks leading from the northern half of the construction hall. Possiprobable "N" Class SSN have also been observed apparently in line with

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	the center of the three sets of tracks to the north bay in (annotation 8, (annotation 5, annotation 20,).	25 25 25
8.	Possible "E" Class SSGN (visible waterline length approx 360'). This evaluation is based upon the presence of a long slender hull outline, finely tapered end-points, and a small sail. A small linear object, possibly equating to a floating vertical screen, is located near the port quarter of the submarine. On floating vertical screens were observed only alongside "E" Class SSGN. This submarine is berthed outboard of the same unique floating workshop observed at this position on The submarine is berthed bow-to the main launch basin. No submarine was observed in this position on	25 25
9.	Probable "E" Class SSGN (visible waterline length approx 360'). A long slender hull outline and at least two raised possible missile launchers contribute to this evaluation. Two small linear objects, at least one of which appears to resemble a floating vertical screen, are located alongside and outboard of this submarine. A rectangular probable submarine support barge (approximately 200 feet in length) is berthed between the submarine and the quay. Judging from the apparent direction of the elevated possible missile launchers, this submarine appears to be berthed bow-to the main launch basin. See annotation 8,	25
10.	Possible "E" Class SSGN (visible waterline length approx 380'). Three small linear objects, possibly equating to floating vertical screens, are positioned outboard of the submarine. The submarine has a segmented appearance suggestive of missile exhaust deflectors. In addition, the long slender hull and tapered end-points contribute to this evaluation. This submarine is berthed outboard of a rectangular probable submarine support barge (length approximately 200 feet) and another smaller unidentified craft. See annotation 9,	25
11.	Possible "E" Class SSGN (visible waterline length approx 385'). Two small linear objects, possibly equating to floating vertical screens, are located outboard of the submarine. The submarine has a long slender hull outline with slightly tapering end-points. The mid-section of the submarine and a possible support barge between it and the quay are partially obscured by shadow from a quayside crane. See annotation 10, mark the only instances in photography of Severodvinsk that as	25 25

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	many as four possible/probable "E" Class SSGN can be identified at any one time at Shipyard 402. See annotations 8, 9, 10, and 19, and annotations 8-11, This observation is made in the light of recent findings described in the NOTE at the end of the text to (page 38 of this report).
12.	Unidentified surface ship alongside floating dock (visible ship IOA approx 290'). The ship has a slightly angled lifeboat arrangement aft similar to tha of the "PM-124" Class YRSN. See annotation 7, Figure 8, and annotation 22,
13.	Probable "N" Class SSN in floating dock (dock IOA approx 430'). A small possible sail is located roughly 90 feet from the bow (bow is located at end of dock furthest from quay and is recognizable by a large probable "staybrite" belt which is imaged as a large white object round at one end). The very rounded bow and pronounced taper aft as well as a possible stern fin contribute to this identification. Analysis of isodensity traces of this imagery reveals that this submarine may possibly be cut in two as indicated by a dark area which bisects the hull immediately abaft the after edge of the sail. The length of this black imagery is approximately 20 feet. The distance between the bow at the visible stern of this submarine is approximately 345 feet. See annotation 11,
	For a more detailed photo/mensural analysis of this imagery refer to CI PIR-67077 (Study of Selected Imagery of Soviet "N" Class SSN).
14.	Rectangular probable submarine support barge (IOA approx 190'). A smaller craft is also berthed between the "N" Class SSN (annotation 1 and the floating dock (annotation 13).
15.	"N" Class SSN (visible waterline length approx 355'). The very rounded "staybrite" bow, small possible sail, and pronounced taper aft contribute to this identification.
16.	Unidentified submarine (visible waterline length approx 345'). The end-point nearest the floating dock may be partially obscured. The submarine is berthed outboard of a rectangular support barge.
17.	Probable "H" Class SSBN (visible waterline length approx 380'). Blunted bow (but not as rounded as an "N" Class), large possible sail, broad afterdeck, and pronounced "pinched-in" stern extremity contribute

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to this evaluation. The submarine is moored bow-toward the perpendicularly-placed floating dock and is berthed outboard of an unidentified craft having a visible length of approximately 215 feet. See annotation 16,
Eight possible small craft on quay (IOA of each approx 85').
Unidentified DDG/DLGM (IOA approx 450').
Unidentified DDG/DLGM (IOA approx 450').
BUSSARD Class AKL (IOA approx 325'). Hull outline, transom stern, and placement of bridge forward of a very long flat midships area contribute to this identification. A BUSSARD Class AKL was observed Med-moored along this area of the quay in see annotation 7, Figure 6,
Four unidentified vessels nested alongside quay. Poor imagery precluded meaningful measurements or further assessment of these vessels.
Probable submarine (visible waterline length approx 255'). Alignment of this vessel between a possible tugboat and the mouth of a flooded transporter dock (annotation 25 below) suggests that this vessel is being towed from the dock. This vessel appears to have a broad beam but poor imagery precludes further analysis.
Rectangular support barge alongside quay (IOA approx 195'). Rectangular shape and visible topside configuration similar to that on the two barges observed at the SSN Special Support Facility in contribute to this evaluation. See annotations 3 and 5, Figure 8,
Flooded transporter dock (LOA approx 350').
Probable submarine support barge (LOA approx 190').

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- 27. ZEYA Class YRSN (IOA approx 235'). Depressed center section, small raised superstructure areas on either hull extremity, and offset black centerline amidships (probably equating to hatch arrangement on this auxiliary) contribute to this identification. A crane (annotation 27a) and a very low unidentified object (annotation 27b) are located on the quay's edge adjacent to the ZEYA. See annotation 28,

NOTE: A probable submarine was observed inbound toward the entrance to Nikol'skoye Estuary (visible waterline length approx 230'). Lack of superstructure, visible hull outline, and wake pattern contribute to this evaluation.

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		KEY TO FACILITY ANNOTATIONS ON FIGURE 8	
	Α.	Initial construction continues on the new quay just west of the new wet dock under construction at the Naval Repair Facility, Yagry Island.	
	В.	Construction on the eastern end of the quay servicing the Nuclear Submarine Special Support Facility, Yagry Island, is nearing completion - only the final 130 feet along its outer edge is lacking.	•
	С.	The roof is complete on all but a small center section of the main buildin at the Yagry Island Nuclear Submarine Special Support Facility.	g
	D.	The westernmost 4 of the 8 large vertical cylindrical tanks at the Nuclear Submarine Special Support Facility, Yagry Island, remain uncovered. Construction of a roof over these tanks has not yet begun.	
<u>.</u>	Ε.	Two probable suction dredges and associated discharge piping are engaged in dredging operations in the westernmost basin area of the Nikol'skoye Estuary.	
_	F.	Construction continues on the large breakwater at the mouth of Nikol'skoye Estuary.	
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SHIPYARD: NAVAL BASE & SHIPYARD 402 LOCATION: SEVERODVINSK, USSR GEO COORDS: 64-35N 039-50E	25X1
KEY TO NUMBERED ANNOTATIONS ON FIGURE 9	
1. Probable "J" Class SSG (apparent waterline length approx 285' Tapered end-points, broad beam, large sail amidships, and bre deckline possibly equating to exposed exhaust deflectors cont this evaluation. A probable "J" Class SSG was observed in th on See annotation 1,	ak in ribute to
2. Large floating crane in main launching basin. This crane was previously located alongside the East Quay. S. 2,	ee annotation
3. Rectangular probable submarine support barge (IOA approx 210' shallow side of main launching basin. This barge is presently aligned with the southernmost of the leading into the southern half of the main construction hall. barge was noted alongside a probable/possible "N" Class SSN in the northern bay in see annotation 8, and see annotation 5, CIA/PIR-67166) as well as inboard of SSGN observed along the Main Quay (see annotations 1, 3, and 6 constructions 1, 3, and 6 constructions 21.	three tracks A similar n front of nd later in 25X1 67165, and 25X1 f "E" Class
4. Unidentified submarine (visible waterline length approx 380') with caisson gate to flooded main launch basin. Fine tapered end-point (nearest caisson), small white object of end-point nearest the caisson (believed to be the bow), and we length approximate the recognition characteristics associated Soviet nuclear submarines. If this were an "N" Class SSN it is that one of the end-points would have presented a more rounded and that the white "staybrite" belt on the "N" would have been noticeable - even on photography. However, the imagery is instance is too poor to enable a differentiation as to class (vs. "H"). This submarine is probably about to leave the basin small probable tugboat is observed between the inner basin wall probable bow of the submarine as if to align it with the opening	on aterline with large is believed d appearance n much more in this (e.g. "E" n. A

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	basin. See annotation 5, and annotation 6, If the same berthing practices observed with the "N" Class SSN and associated rectangular support barges also apply to the unidentified submarine in the basin it is quite possible that this submarine may have just left a berthing position directly alongside the rectangular probable submarine support barge on the flooded shallow side of the launch basin at annotation 3 above. If true, this submarine would have then been aligned with the center track of the three tracks leading into the southern half of the main construction hall. No "E-II" Class SSGN are observed at this time along the Main Outfitting Quay (annotation 5 below), and no submarine activity can be observed at this time at the middle berthing space along the quay to the Yagry Island Special Support Facility (annotation 15 below
5•	Three submarine berthing spaces along the Fitting-out Quay, Main Yard. One wide and two narrow rectangular support barges are positioned directly alongside the quay; however, no evidence of either submarines or vertical screens is visible outboard of these barges. Although the photography is of fair to poor quality it is believed that these three submarine berths are probably not occupied. Three possible/probable "E" Class SSGN were observed in these positions on annotations 8, 9, and 10,
6.	Possible "H" Class SSBN (visible waterline length approx 385'). This tentative evaluation is based primarily on hull shape (wider forward than the "E" but narrower across the bow than the "N"), the suggestion of a large sail, and imagery suggestive of a bow sonar. It is possible that this is the "H" Class SSBN observed in the floating dock in the main launching basin on (see annotation 5, A large unoccupied floating dock is now observed by the Yagry Island wet basin quay at annotation 11 below. The area where a second (probable) "H" Class was observed on (annotation 17, is now completely hidden in the shadow cast by the construction hall near the side launching way. A possible "E" Class SSGN was observed in this berthing space (annotation 6, See annotation 11,
7.	Probable submarine in floating dock (LOA of dock approx 430'; visible LOA of probable submarine approx 350'). A probable "N" Class SSN, possibly cut in two, was observed in this dock (annotation 13,
8.	Probable ZEYA Class YRSN (outboard) and rectangular possible submarine support barge (inboard) nested against the fitting-out quay, North Yard

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	The depressed mid-section, superstructure detail at one end and a black line down the middle of this vessel contribute to this evaluation. A ZEYA Class YRSN was observed at the other (western) end of this quay in See annotation 27,
9.	Possible "W" Class SS (visible waterline length approx 230'). Narrow beam, small sail, and visible length contribute to this identification.
10.	Unidentified vessel (could not be measured). Parallelism noted in the hull outline of this craft suggests that it may possibly be a transporter dock (see annotation 25,
11.	Unoccupied floating dock (IOA approx 430').
12.	Two probable YAGT (IOA of each approx 360').
13.	Two possible DE (could not be measured).
14.	Possible BOLVA Class APL.
15.	Unidentified vessel alongside quay at Nuclear Submarine Special Support Facility, Yagry Island (could not be measured).
16.	Possible submarine outboard of possible support barge alongside quay at the Nuclear Submarine Special Support Facility (could not be measured). A slightly tapered narrow hull shape provides the only evidence in the interpretation of this imagery. An unidentified vessel is outboard of the possible submarine.
	KEY TO FACILITY ANNOTATIONS ON FIGURE 9
Α.	Construction continues on the quay just west of the new wet dock under construction at the Naval Repair Facility, Yagry Island.
В.	Exterior roofing over the four easternmost cylindrical tanks at the Submarine Special Support Facility, Yagry Island, appears to be nearly completed.
С.	Dredging and construction on the new breakwater continues at the mouth of Nikol'skoye Estuary.
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	SHIPYARD: NAVAL BASE & SHIPYARD 402 LOCATION: SEVERODVINSK, USSR GEO COORDS: 64-35N 039-50E	
	KEY TO NUMBERED ANNOTATIONS ON FIGURE 10	~
25X1	1. Possible "J" Class SSG (visible waterline length roughly 270'). A portion of the probable submarine hull is snow covered. The visible broad hull outline leads to this tentative identification. A "J" Class SSG was observed in this position on See annotation 1, Figure 5,	25X1
25X1	2. Unidentified auxiliary (visible IOA approx 305'). An unidentified object is nested outboard of this ship. Visible topside configuration and position of the auxiliary and the location of the unidentified object equate to the foot auxiliary and a "J" Class SSG observed at this quay on See annotations 2 and 3, Figure 5,	25X1 -
25X1	3. Small stack-aft surface ship inboard (IOA approx 215') and unidentified barge outboard (IOA approx 180'). The inboard ship is the same vessel observed berthed in this position See annotation 4, Figure 5,	25X1
25X1	4. Unidentified surface craft (IOA approx 255'). This vessel was observed (but not reported) in the same position on	25X1
	5. Large floating crane (approximate platform length - 170') in deep side of the main launching basin. This crane is later observed alongside the west quay constant of the second seco	25X1 25X1_
	6. Unidentified submarine (visible waterline length approx 355'). Slender tapering outline toward each visible hull extremity is similar to units of the "E" Class SSGN. This hull is positioned in line with the northernmost of the three tracks leading into the southern bay of the main construction hall. Although poor definition of this imagery precludes a determination as to whether or not the submarine is positioned.	bed
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	bow-out from the construction hall neither extremity appears to have the very broad rounded appearance common to the bow of the "N" Class SSN. No vertical stern fin is visible on either end of this submarine, and no sail is visible. A series of five unidentified floating rectangular objects, each roughly 35 to 40 feet in length, is visible along the northern side of this submarine, and four similar objects are visible along the southern side of the hull. These objects appear shorter than the vertical screens seen with the "E's" along the quay and resemble the unidentified rectangular floating objects seen by the stripped-down possible "H" Class SSBN at this position on	25X1
[A comparative analysis of nuclear submarine activity observed at Shipyard 402 on both	25X1 25X1 25X1 25X1 25X1 25X1 25X1 25X1
7.	Two possible tugboats berthed lengthwise across the inner side of the caisson spanning the entrance to the main launching basin (apparent IOA of each roughly 160'). Two probable tugboats have been previously observed in this basin (see annotations 3 and 5, and annotation 6,	25X1
8. [Probable floating workship (approx dimensions - 110' x 50'). This wide barge is later located near this position (but not reported) on The berthing space outboard of the probable workship is empty.	
9.	Rectangular submarine support barge (LOA approx 185'). The berthing space outboard of this barge is unoccupied.	

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10. "E-II" Class SSGN (visible waterline length approx 385').

Hull outline, placement of a small sail, and the positioning of the three after probable exhaust deflectors (all abaft the sail) contribute to this

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	identification. The submarine is berthed stern-to the main launch basin. Two sets of floating vertical screens are positioned outboard of the submarine. The submarine is berthed outboard of a rectangular submarine support barge (IOA approximately 185 feet) and a smaller rectangular barge. A quayside portal crane is working on the port quarter of the submarine. Breaks in the ice at either end of this berthing space indicate that this submarine may have been recently moored in this position (see annotation 5,
11.	"E-II" Class SSGN (visible waterline length approx 375'). Identification is based upon the hull outline and the presence of 4 sets of elevated missile launchers. The submarine is berthed outboard of a rectangular submarine support barge (IOA approximately 190 feet) and is positioned stern-to the main launching basin. Two sets of floating vertical screens are placed outboard of the submarine in line with the elevated missile launchers. A portal crane is on the quay working in line between the number 3 and 4 sets of missile launchers. A break in thice by the stern of this submarine plus evidence of recent icebreaking activity in the area between this berthing space and the entrance to the main launching basin suggest that this submarine may also have been recently moored in this position. A possible "H" Class SSBN was observed occupying this berthing space on See annotation 6,
	The evidence described in annotations 6, 10, and 11,
·	4, may have been about to leave the launch basin in (annotation 4, The unidentified submarine observed in the launch basin in (annotation 6, may be the third of three "E-II" Class SSGN seen in Since the two "E-II" Class SSGN are already along the outfitting quay in (annotations 10 and 11, it is possible that the second "E-II" was launched between
12.	"N" Class SSN in floating dock (IOA of dock approx 425'). The length of this submarine is approximately 325 feet when scaled from the length of the dock. The distance measured was from a point where the

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submarine's bow butts against rectangular scaffolding (located just forward of the bow - see identical imagery observed on as illustrated in Figure 4C, CIA/PIR-67041 to the after end of the vertical fin/stabilizer which is clearly visible as a small white
linear object on this photography. A comparative analysis of this photography with that of an "N" Class observed in this same dock on (see annotation 9, Figure 4, reveals that the position of the bow of this submarine relative to the outboard end of the dock is approximately 50 feet from the outboard edge of the dock in while the bow of the "N" Class submarine later observed in is
approximately 35 feet from the outboard end of the dock. The after edge of the stern fin to the inboard (quay) end of the dock measured approximately 50 feet in
This identification was also developed in large part by conducting a detailed comparative analysis of this imagery with imagery observed in this dock on every instance of hotography available. The final result of the comparative analysis for use in this report was not derived in time for inclusion in CIA/PIR-67077 (Study of Selected Imagery of Soviet "N" Class SSN); therefore a discussion of this imagery was not incorporated into that report.
This investigation has revealed that from through a possible conversion schedule may be established with respect to the probable lengthening of "N" Class SSN from a length of approximately 325 feet to an approximate length of 355 feet. The
Appendix to this report provides a ready reference of submarine activity observed in this dock on selected photography during this period. An unidentified probable submarine was observed in this dock on see annotation 7, It was noted that its extremities were significantly closer to the ends of the dock than the end-points of
the "N" Class observed on The length of the probable submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed in this dock on was approximately a submarine observed on was approximately a submarine observed on was a submarine observed on

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13.	Submarine support barge (apparent LOA approx 200'). A similar barge is later observed in this position on(see annotation 10, Figure 4,
14.	Unidentified barge (IOA approx 130') and unidentified object outboard of the possible "N" Class SSN at annotation 15 below.
15.	Possible "N" Class SSN (visible waterline length approx 355'). Rounded bow, possible "staybrite" belt, and visible hull outline contribute to this tentative evaluation. The submarine appears to be berthed outboard of a rectangular support barge (poor imagery precluded a measurement of this vessel). An "N" Class SSN is later berthed in this position on See annotation 11, Figure 4,
16.	Eight probable Polish "TR-40" Class MSB (LOA of each roughly 90') on quay. Visible topside appearance and their positions on the quay appear to equate to eight similar craft later observed on this quay on (annotation 6, Figure 3,
17.	Eight possible LCM and two possible patrol craft on quay (IOA of each possible LCM approx 60').
18.	Possible "J" Class SSG (visible waterline length approx 275'). Very wide beam and generally squat hull outline contribute to this evaluation. This is the first identification of "J" Class SSG activity along this quay. A "J" Class is later seen just west of this position See annotation 4, Figure 2,
19.	BUSSARD Class AKL (IOA approx 320').
20.	Possible RIGA Class DE (LOA approx 300'). Pointed bow, blunt stern, and the presence of two small white objects forward equating to the position of rocket projectors contribute to this evaluation.
21.	Transporter dock (IOA approx 345'). A small yard craft occupies the after third of the dock. A similar dock is later observed alongside this quay on (annotation 10, Figure 6, See also annotation 10,
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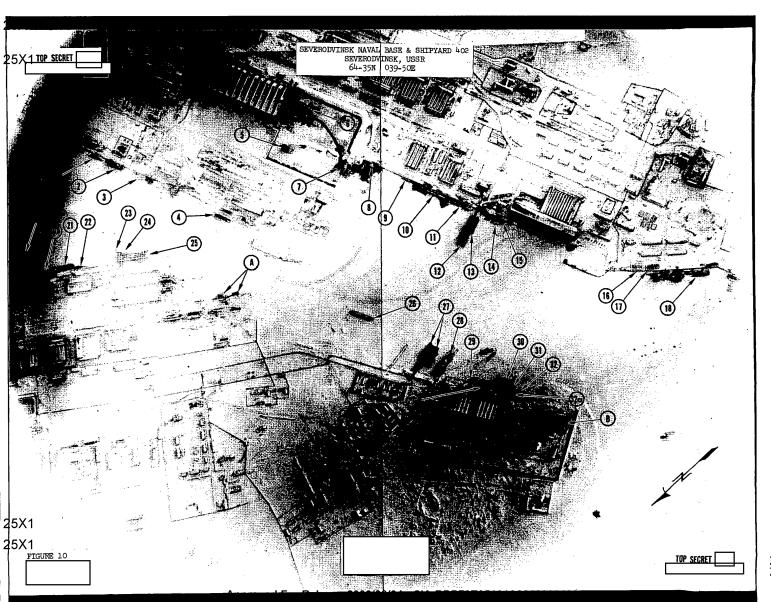
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22.	Possible "G" Class SSB alongside quay (visible length approx 300'). The bow of this submarine is positioned between the bow of the slightly angled transporter dock (annotation 21 above) and the quay. The submarine appears to have a large sail (visible length approximately 65 feet). The entire afterdeck of the submarine is nearly covered by snow. A "G" Class SSB with stripped-down missile tubes is later observed alongside this quay on (see annotation 5, Figure 6,	25X1
23.	Submarine support barge across the mouth of the large floating dock (apparent IOA of barge approx 185'). The unique topside configuration is identical to the barge observed in the same position on (see annotation 12, Figure 6,	25X1
24.	Unidentified vessel (visible IOA approx 135'). A similar vessel is later observed in an identical position on See annotation 13, Figure 6,	25X1 25X1
25.	Possible "H" Class SSBN in large floating dock (IOA of submarine approx 365'; IOA of dock approx 430'). The visible scaffolded hull outline, apparent lack of a pronounced rounded bow, and the presence of a large possible sail (IOA roughly 80 feet) contribute to this evaluation. The submarine appears to occupy an identical position within the dock as an "H" Class SSBN observed in same dock in (see annotation 15, Figure 6, The sheds noted over a large area of (this) submarine in are not observed on this mission. This dock was not occupied in (see annotation 11, The Appendix to this report provides a ready reference of submarine activity observed in this dock on selected photography	25X1 25X1 25X1 25X1
26.	Large Missile Target Barge (YAGT). IOA approx 340'. See annotation 12,	
27.	Three probable RIGA Class DE (LOA of each approx 300').	
28.	BOLVA Class APL (IOA approx 365').	
29.	Possible "H" Class SSBN (visible waterline length approx 375'). The after portion of this submarine's sail appears to have been removed. The notched appearance of the hull outline by the starboard quarter of this submarine equates to the edge of a "framework" noted on a possible "H" Class SSBN observed to be identically berthed along this quay on See annotation 2, Figure 8, CIA/PIR-67041) and the NOTE (*) at the end of the text to	25X1

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30.	Probable ZEYA Class YRSN (LOA approx 235').
J .	A depressed center section and the hull outline contribute to this evaluation.
31.	Probable "PM-124" Class YRSN. The visible superstructure and the placement of lifeboats equate to the topside configuration observed on the "PM-124" observed in the berthing space outboard of this position on This ship is presently berthed bow-out toward the mouth of the estuary. In the "PM-124 is facing the other way (toward the ENE). See annotation 7, Figure 4,
32.	Probable "N" Class SSN (visible waterline length approx 355'). The rounded bow, small possible sail, and hull outline contribute to this evaluation. The submarine is berthed outboard of a rectangular support barge (IOA approximately 190 feet). A small white shed (length approximately 30 feet) is located roughly 10-15 feet abaft the sail. Similarities of berthing and the positioning of the shed on this submaring indicate that it is most likely the same "N" Class SSN seen with its support barge at this quay on see annotations 4 and 5, Figure 8,
	The area of the quay extending to the Special Support Facility which is directly in line with the possible "H" Class SSBN (annotation 29 above and the "N" Class SSN is separately secured. Unidentified activity (annotation 32a) is visible near the end of the quayside craneway in line with the after end of the "N" Class SSN.
	KEY TO FACILITY ANNOTATIONS ON FIGURE 10
Α.	Two possible pile drivers are working alongside the new quay under construction just west of new wet dock.
В.	The roof is complete over four easternmost cylindrical tanks at the Yagry Island Nuclear Submarine Special Support Facility. The outer walls surrounding the remaining four tanks appear nearly completed.
NOT	Previously reported as an "E-II' Class SSGN" at the Yagry Island Nuclear Submarine Special Support Facility (annotation 2, Figure 8, CIA/PIR-67041) has been conducted in by CIA/IAD analysts in the light of recent intelligence available on "E" and "H"

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_ -	CIA IMAGERY ANALYSIS DIVISION	
	Photography of Severodvinsk dated	25X1
25X1	revealed that a (probable) "H" Class SSBN was berthed inboard of an "N" Class SSN at the Yagry Island Nuclear	
0EV4	Submarine Special Support Facility. (See paragraph 1, NPIC 072001Z The entire after housing of the sail by the missile	
25X1	compartment has been stripped away, exposing three clearly visible	
<i>-</i>	black circles (on the centerline) which appear to be nearly flush with the deck. The position of the black circles is similar to	
	the missile tube placement on the "H" Class SSBN. A vertical fin on the stern is also clearly visible. The approximate measurement of	
	the stern is also clearly visible. The approximate measurement of the waterline length of this submarine is 380 feet.	
	This marks the first instance that: (1) an "H" Class SSBN could be	
	clearly identified as such at this Yagry Island Facility; and (2) an "H" Class SSBN in a stripped-down condition could be recognized on	
25X1	photography. A comparative analysis between the (probable)	
25X1 25X1	"H" Class SSBN imaged on and the photography reveals similarities in length, bow configuration, positioning, and appearance	25X1
05V4	of the nearly intact forward area of the sail, and the positioning of	
25X1	circular images are observed on	25X1
	that, except for the submarine at Yagry Island on there has apparently been no reported instance in photography of an "E"	25X1 25X1
	Class submarine stripped of all its missile tubes.	20/(1
	A more detailed comparative analysis of these two submarines has	
	recently been published in CIA/PIR-77108 ("H" Class SSBN Activity, Yagry Island Nuclear Support Facility, Severodvinsk, USSR).	
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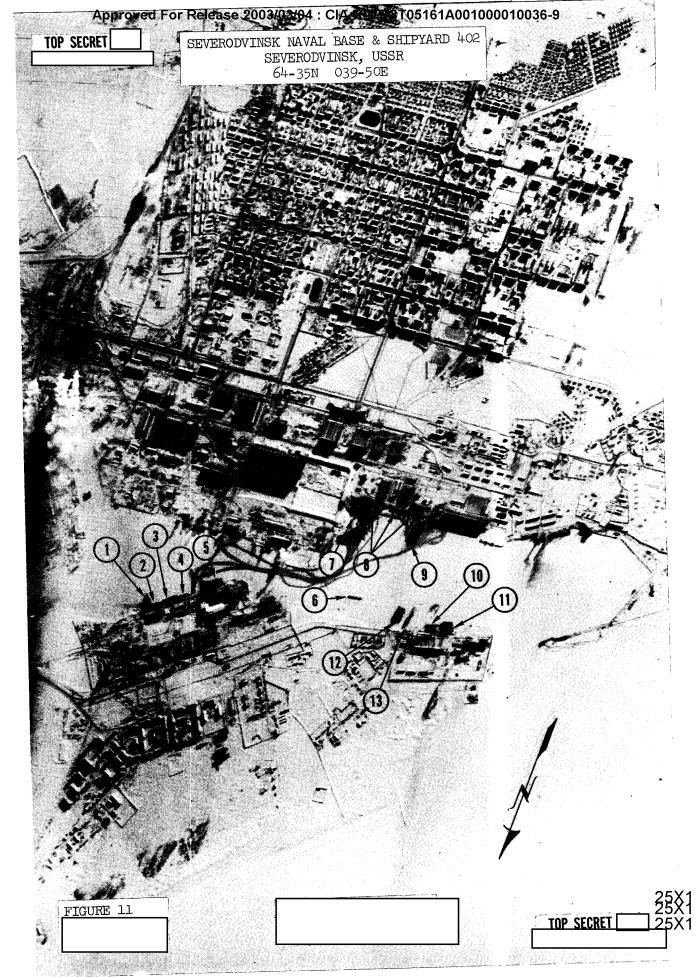
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LO	IPYARD: NAVAL BASE & SHIPYARD 402 CATION: SEVERODVINSK, USSR O COORDS: 64-35N 039-50E
	KEY TO ANNOTATIONS ON FIGURE 11
1.	Unidentified vessel Med-moored to quay (could not be measured). See annotation 19,
2.	Possible DE (visible IOA approx 280'). See annotation 20,
3.	Transporter dock (IOA approx 340'). A small yard craft occupies the after third of the dock. See annotation 21,
+.	Probable submarine (could not be measured). A possible "G" Class SSB was observed in this position in See annotation 22,
5.	Large probable submarine in floating dock. A probable steam vapor over one end of the vessel precludes measurement. A possible "H" Class SSBN was observed in this dock in See annotation 25,
5.	Possible YAGT (IOA approx 350').
7.	Large floating crane. This very large crane occupies the submarine berthing position nearest the main launching basin. There is no evidence of a submarine in this position at this time. The ice is broken around the base of the crane, and icebreaking activity is visible from the crane to each of the two large floating docks (annotations 5 and 9) as well as to the East Quay (across from the Yagry Island wet basin). This crane was last observed in the deep water side of the main launch basin in See annotation 5,
3.	Three berthing spaces containing unidentified imagery alongside the Main Quay. Two of these three berthing spaces contained "E-II" Class SSGN on see annotations 10 and 11, the third berthing
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. •			The second secon
25X1 25X1		space (annotation 9, was not occupied at that time by a submarine. The imagery now present in this third position is similar to the imagery in the other two positions. If the "E-II" Class submarines observed along this quay in are still present is is quite likely that the third berthing space is occupied by a third submarine - and	25X1
		that this may be the unidentified submarine observed in the main launching basin in see annotation 6, Small rectangular shadows, possibly cast by floating vertical screens, are visible outboard of each of the three berthing spaces.	25X1
. :	9.	Probable floating dock. Very poor imagery precluded further interpretation.	
 .	10.	Unidentified object outboard of rectangular barge (could not be measured). This imagery has roughly the same appearance and occupies the same location alongside the Nuclear Submarine Special Support Facility quay as the possible "H" Class SSBN observed here in (annotation 29,	25 X 1
25X1			
 25X1 ु	11.	Possible submarine outboard of barge alongside Special Support Facility quay. At least two unidentified vessels are outboard of the possible submarine. All the vessels in this area of the quay appear to be berthed in the same arrangement as the probable "N" Class SSN and associated auxiliaries noted in annotations 30-32,	
25X1	12.	Three possible DE. See annotation 27,	
	13.	Possible APL. See annotation 28,	
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CIA/PIR-67315 CIA IMAGERY ANALYSIS DIVISION
SHIPYARD: NAVAL BASE & SHIPYARD 402 LOCATION: SEVERODVINSK, USSR GEO COORDS: 64-35N 039-50E
KEY TO ANNOTATIONS ON FIGURE 12
1. Unidentified vessel alongside East Quay. A possible "J" Class SSG was observed in this position on See annotation 1,
2. Unidentified surface vessel alongside East Quay. See annotation 2,
3. Large floating crane. See annotation 7,
4. Three occupied submarine berthing positions alongside Fitting-out Quay, Main Yard. The shadows cast on the snow by each of the objects in these positions resemble the profile view of the "E" Class SSGN - gently sloping at one end, more blunt at the other end. Small rectangular shadows similar to those cast by the floating vertical screens observed with the "E" Class SSGN are also present outboard of the shadows described above. See annotation 8,
5. Large floating dock (occupancy undetermined).
6. Possible submarine. Broad rounded end-point at the end furthest from the dock and a tapering at the other end resemble the hull outline of the "N" Class SSN. A possible "N" Class SSN was observed in this space on See annotation 15,
7. Unidentified surface vessel Med-moored to Fitting-out Quay, North Yard. See annotation 1,
8. Possible DE. See annotation 2,
9. Transporter dock. See annotation 3,
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	CIA/PIR-67315 CIA IMAGERY ANALYSIS DIVISION
10.	Unidentified submarine. See annotation 4,
11.	Large possible submarine in floating dock. See annotation 5,
12.	Possible YAGT. See annotation 6,
13.	Three possible DE. See annotation 12,
14.	Possible APL. See annotation 13,
15.	Large unidentified submarine outboard of barge alongside the quay to the Nuclear Submarine Special Support Facility, Yagry Island. A tapered hull outline is visible. See annotation 10,
16.	Two unidentified surface vessels outboard of possible submarine at annotation 17 below.
17.	Possible submarine outboard of barge alongside the Yagry Island Special Support Facility. The imagery present at annotations 15-17 above appears similar in outline and is identically positioned to the possible "H" Class SSBN, the probable "ZEYA Class YRSN, the probable "PM-124" Class YRSN, the probable "N" Class SSN, and the two rectangular submarine support barges observed on See annotations 29-32, These same (probable) vessels are later observed alongside this quay on See annotations 1-5 and 7, Figure 8,
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	CIA IMAGERY ANALYSIS DIVISION
DC.	PYARD: NAVAL BASE & SHIPYARD 402 ATION: SEVERODVINSK, USSR COORDS: 64-35N 039-50E
	KEY TO ANNOTATIONS ON FIGURE 13
•	Unidentified submarine (visible waterline length approx 260'). Tapered end-points and a broad beam are visible. See annotation 1,
•	Probable submarine (visible waterline length approx 260') outboard of unidentified surface ship (IOA approx 310'). See annotation 2,
•	Occupied submarine berthing position. Three small rectangular shadows on the snow may be cast by vertical screens. See annotation 4,
•	Occupied submarine berthing position. Two small rectangular shadows on the snow may be cast by vertical screens See annotation 14,
•	Occupied submarine berthing position. Three small rectangular shadows on the snow may be cast by floating vertical screens. It was later observed on good quality photography of that vertical screens were only positioned outboard of the missile launchers aboard the "E-II" Class submarine. On these three berthing spaces (annotations 3, 4, and 5 above) are occupied by "E-II" Class SSGN. Indistinct imagery precludes any identification of possible vessels along this quay on The berthing position along this quay closest to the main launch basin is unoccupied - both on this mission See annotations 2, 4, and 7, Figure 4, (CIA/PIR-67041) and annotation 3,
•	Possible large floating crane alongside floating dock. Identification is based primarily on the large rectangular platform (approximately 170 feet long by 80 feet wide). Indistinct imagery precluded interpretation of detail on the platform; however, over-all

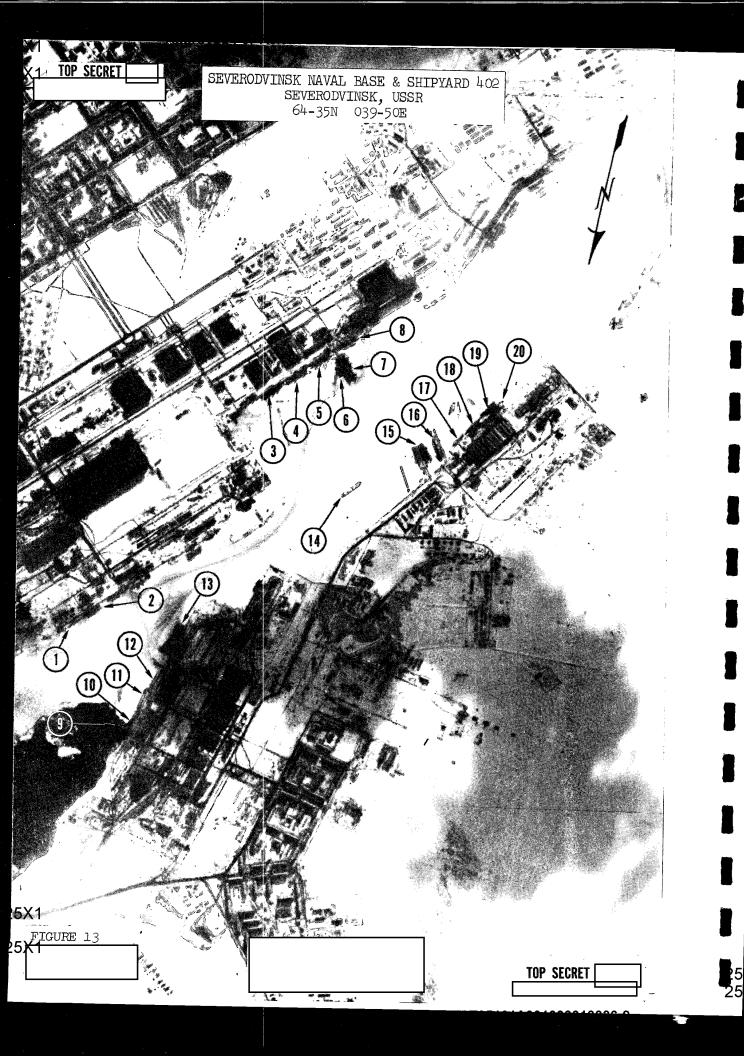
	CIA/PIR-67315 CIA MAGERY ANALYSIS DIVISION
	platform dimensions equate to those of the large floating crane later observed on (see annotation 6, Figure 5, A large floating crane was observed on alongside the Fitting out Quay, Main Yard, near the launch basin (see annotation 3, Faint traces of icebreaking activity lead from the main quay near the launch basin to the floating dock (annotation 7 below).
7.	Floating dock (IOA approx 425') containing a probable submarine (apparentlength of probable submarine approx 360').
8.	Possible submarine (could not be measured). This vessel appears to have a wide rounded bow. See annotation 6,
9.	Possible BUSSARD Class AKL (IOA approx 320'). Hull outline, length, and visible superstructure detail appear similar to the BUSSARD Class AKL later seen Med-moored in this same location on
10.	Possible DE (visible LOA approx 285'). See annotation 8,
11.	Transporter dock (IOA approx 345'). A small probable yard craft is visible in the after third of the dock. See annotation 9,
12.	Unidentified submarine (visible waterline length approx 315'). A "G" Class SSB with stripped-down tubes and sail housing is later observed along this quay on See annotation 5, Figure 6, and annotation 10,
13.	Floating dock (could not be measured). The dock appears to be occupied but poor imagery precludes further analysis. An "H" Class SSBN is later observed in this dock on See annotation 15, Figure 6, and annotation 11,
14.	Possible YAGT. See annotation 12,
15.	Three possible DE. See annotation 13,
16.	Possible APL. See annotation 14,

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17.	Possible ZEYA Class YRSN (IOA approx 230'). Hull outline, depressed mid-section, and approximate length contribute to this tentative identification. A ZEYA Class YRSN is later observed in this position on (see annotation 1, Figure 8, This berthing position alongside the quay was unoccupied on The ZEYA at that time may have been outboard a possible submarine at the western end of the quay to the Yagry Island Nuclear Submarine Special Support Facility. See annotations 16 and 17,
18.	Possible submarine outboard of possible support barge. A long, slender, tapered hull outline forms the basis for this tentative identification. A possible "H" Class SSBN is later seen in this position outboard a probable decontamination (DECON) radio-active control (RADCON) barge on See annotations 2 and 3, Figure 8, annotation 15, and the NOTE following the text
19.	Possible "PM-124" Class YRSN and one small surface vessel outboard of the possible "N" Class SSN at annotation 20 below. The hull outline, slight reverse curve to the top of the bow, and relative length contribute to this tentative identification. This ship still appears to be berthed bow-out toward the mouth of the Estuary as was the probable "PM-124" observed in See annotation 31, and annotation 16,
20.	Possible "N" Class SSN (visible waterline length approx 350') outboard of a rectangular probable submarine support barge (IOA approx 190'). The submarine appears to have a wide rounded bow and a long narrow taper aft. A very faint white object is visible just abaft amidships on this vessel in the same position as a small white shed noted on a (probable) "N" Class SSN observed in this berthing space on both (annotation 32, (annotation 4, Figure 8, Figure 8, Figure 8).
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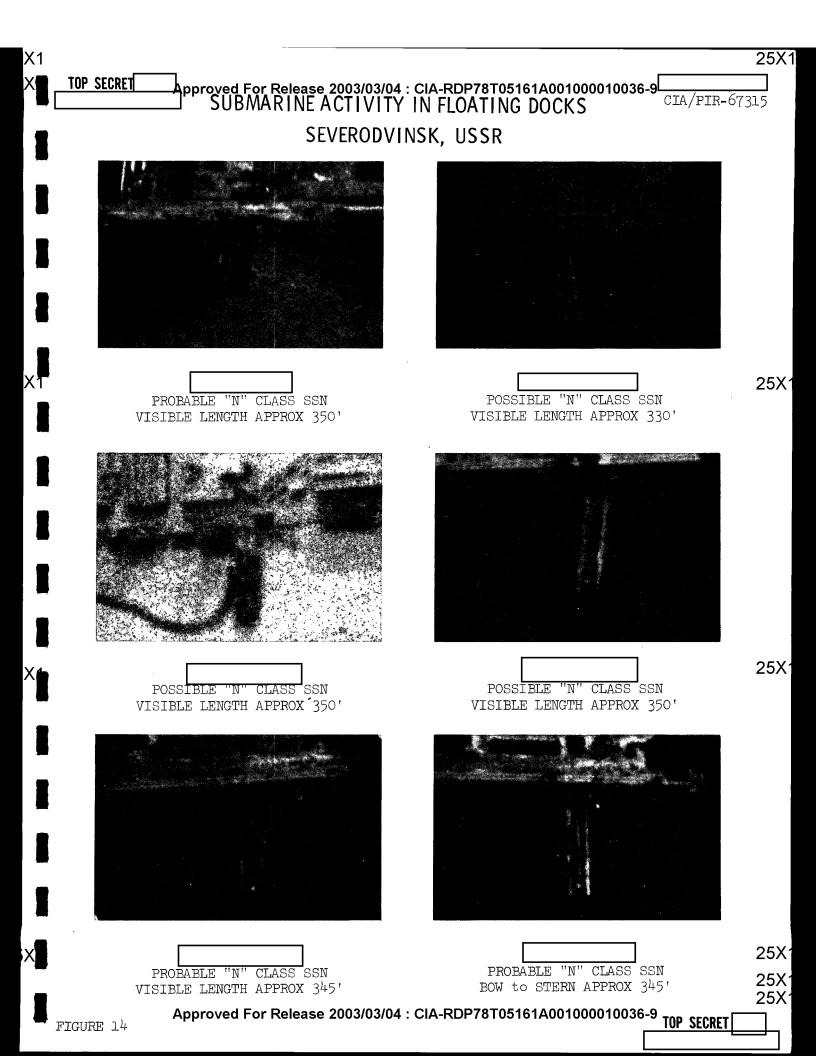
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APPENDIX

SUBMARINE ACTIVITY IN FLOATING DOCKS
SEVERODVINSK, USSR

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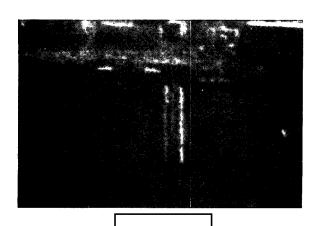


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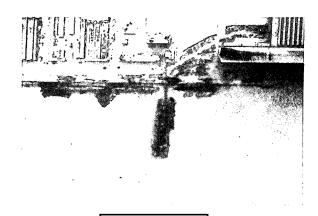
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SEVERODVINSK, USSR



PROBABLE SUBMARINE
VISIBLE LENGTH APPROX 350'

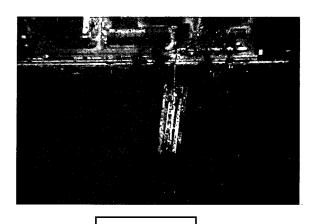


"N" CLASS SSN
LENGTH APPROX 325'



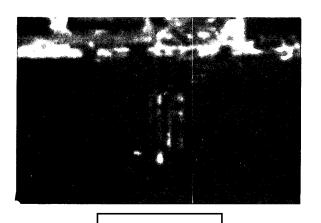


PROBABLE SUBMARINE
APPARENT LENGTH APPROX 360'

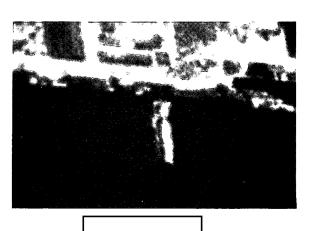


"N" CLASS SSN
VISIBLE LENGTH APPROX

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POSSIBLE "N" CLASS SSN VISIBLE LENGTH APPROX 355'



FLOATING DOCK UNOCCUPIED

25X1

25X²

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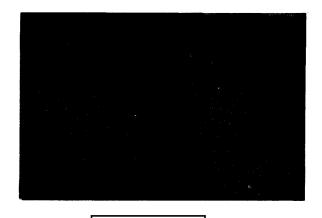
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POSSIBLE SUBMARINE COULD NOT BE MEASURED

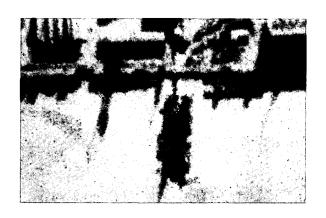


DOCK OCCUPIED BY UNIDENTIFIED OBJECT



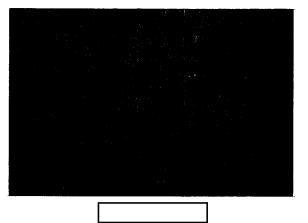


PROBABLE "N" CLASS SSN (PROBABLY SHORT VARIANT*)



POSSIBLE "N" CLASS SSN (PROBABLY SHORT VARIANT*)

25X1



PROBABLE "N" CLASS SSN (PROBABLY SHORT VARIANT*)

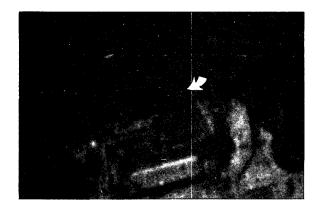
* RELATIONSHIP OF THE SUB-MARINE'S BOW TO THE END OF THE FLOATING DOCK IN-DICATES THE SHORT VARIANT.

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SUBMARINE ACTIVITY IN FLOATING DOCKS TOP SECRET

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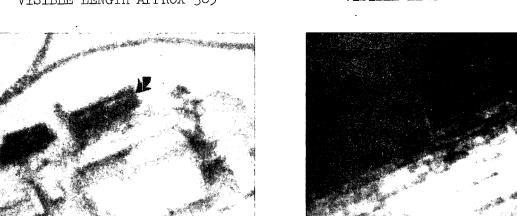
SEVERODVINSK, USSR



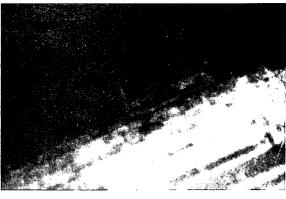
PROBABLE SUBMARINE VISIBLE LENGTH APPROX 365'



UNIDENTIFIED SUBMARINE VISIBLE LENGTH APPROX 360'



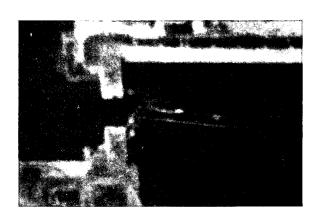
PROBABLE "H" CLASS SSBN VISIBLE LENGTH APPROX 380'



PROBABLE "H" CLASS SSBN VISIBLE LENGTH APPROX 370'



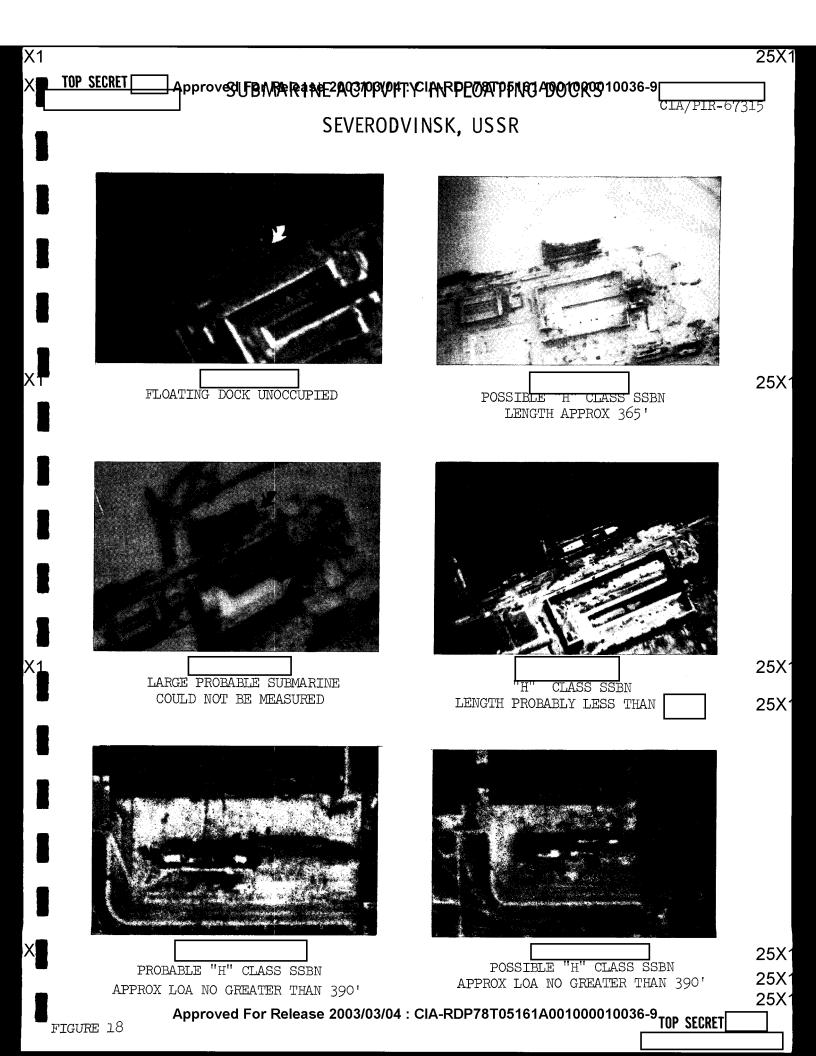
POSSIBLE "H" CLASS SSBN VISIBLE LENGTH APPROX 360'

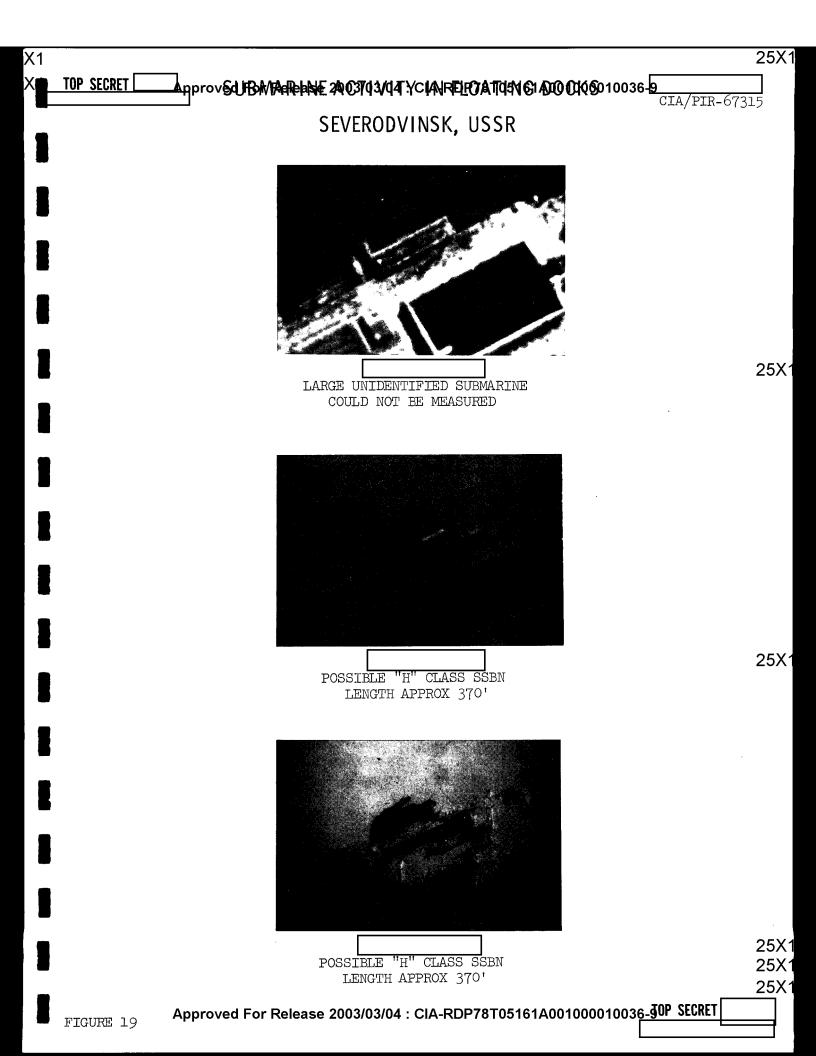


"H" CLASS SSBN APPARENT LOA APPROX 395'

25X 25X1 25X1

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	CIA/PIR-67077, Study of Selected Imagery of Soviet "N" Class SSN (TOP SECRET CIA/PIR-67041, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR, TOP SECRET
1.	CIA/PIR-67077, Study of Selected Imagery of Soviet "N" Class SSN (TOP SECRET
2.	CIA/PIR-67077, Study of Selected Imagery of Soviet "N" Class SSN (TOP SECRET CIA/PIR-67041, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR, TOP SECRET CIA/PIR-67164, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR, TOP SECRET TOP SECRET

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5.	CIA/PIR-67166, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR, TOP SECRET
6.	CIA/PIR-67167, Severodvinsk Naval Base and Shipyard 402, Severodvinsk, USSR, TOP SECRET
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8.	CIA/PIR-67312, Naval Base and Shipyard 402, Severodvinsk, USSR,
9.	CIA/PIR-67313, Naval Base and Shipyard 402, Severodvinsk, USSR,
.0.	CIA/PIR-67314, Naval Base and Shipyard 402, Severodvinsk, USSR,
.1.	CIA/PIR-77108, "H" Class SSBN Activity, Yagry Island Nuclear Support Facility, Severodvinsk, USSR (TOP SECRET
2.	NPIC. MSG 072001Z, October 1966 (TOP SECRET

REQUIREMENT

C-RR6-83,787

CIA/IAD PROJECT

30097-7 (formerly 30618-5)

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